

## Phase I Cave/Mine Portal Assessment Data Sheet

Location: \_\_\_\_\_

Observers: \_\_\_\_\_

Latitude, Longitude: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Temperature (outside): \_\_\_\_\_

	Portal Name or Number
Opening (cave, quarry, shaft, or adit)	
Opening Size: Height x Width (or Diameter)	
Internal Dimensions: Height x Width	
Slope (up or down from entrance)	
Entrance Stable?	
Direction of Airflow (In or out?)	
Amount of Airflow (e.g., none, slight, heavy)	
Air warmer or cooler than outside temp.	
Humidity	
Evidence of toxic gases? (Describe)	
Evidence of collapse?	
Ceiling Condition	
Amount of water in opening	
Evidence of past flooding?	
Observed length of portal	
Distance to nearest water source	
% Canopy Cover at portal entrance	
Foraging Signs? (e.g., moth wings)	

Are any portals suspected or known to be connected? Which ones?

Any observable side passages?

Describe the number and size of any observable rooms or chambers.

Additional comments:

**Provide labeled photographs of all caves, portals, and openings assessed.**

*Entry into abandoned mine portals, quarries, or caves can be extremely dangerous because of the potential for ceiling collapse and presence of toxic gases. Safety or health problems may occur as a result of entering abandoned mines. The USFWS does not authorize or require anyone to enter any potential hibernaculum that is or could be unsafe while implementing surveys. These guidelines do not require any applicant or applicant employee, consultant, lessee, or other such designee to enter into any cave, quarry, or mine portal.*

## **Draft Protocol for Assessing Abandoned Mines/Caves for Bat Use**

Updated June 2011

In general, openings can be dismissed from bat surveys when:

1. There is only one horizontal opening, and it is less than 6 inches (15.2 centimeters) in diameter with no or very little air flow;
2. Vertical shafts are < 1 foot (0.3 meters [m]) in diameter;
3. Passage continues < 50 feet (15.2 m) and terminates with no fissures that bats can access;
4. Openings are prone to flooding, collapsed shut and completely sealed, or otherwise are inaccessible to bats; and
5. Openings that have occurred recently (i.e., within the past 12 months) due to creation or subsidence. (Include written documentation verifying this determination).

*Additional Notes: Bats can access mines via old open buildings such as fan houses. Foliage and other vegetation in front of a mine opening does not prevent use by bats since they can navigate through foliage. Collapsed entrances with multiple crevices between boulders are accessible by bats and should be sampled. Collapses which are completely sealed with soil are inaccessible to bats.*

### **Sampling Dates, Times and Temperature Criteria**

1. Fall sampling must be conducted from Sept 15 - Oct 31;
2. Sampling will start ½ hour before sunset and continue for at least 5 hours;
3. Sampling cannot be completed during heavy rain and thunderstorms;
4. Temperature must be > 50° F (10° C) for the first 2 hours, and remain above 35° F (1.6° C) until midnight;
5. Sampling will be conducted on two evenings. If no captures occur and no bat activity is noted with a bat detector the first night, sampling can be suspended for the site;
6. Talking and the use of lights should be kept to a minimum near the sampling site. There will be no smoking, radios, campfires, running vehicles, citronella candles or other disturbances within 300 feet (91.4 m) of the sampling site; and
7. Local residents and law enforcement agencies should be informed of the scheduled nighttime activities.

## Equipment

*No equipment litter or other debris will be left unattended at the site that could result in the capture or entanglement of any animals. Any equipment stored at the site between sampling sessions must be clearly labeled with contact information.*

**Harp Trap\*:** Place in front of opening and block surrounding space with plastic sheeting or bird netting. Traps should be tended at least once per hour. When the catch rate is >25 bats per hour and during inclement weather, traps should be tended continuously to avoid harming bats.

**Mist Nets\*:** 50 denier, 38 mm mesh. Place in front of or around the opening. Nets need to be monitored closely and checked at least once every 20 minutes. At sites with a heavy bat swarm, the net will need to be monitored continuously.

**Bat Detector:** A bat detector should be on site to monitor bat activity when trapping or netting. Bat passes should be monitored and tallied for at least one hour after 10:00 pm. Bat tallies should be reported along with the time sampled. Report the beginning time and number of bat passes in hour blocks.

**Other:** In situations where it is too dangerous to approach an entrance, bat detectors and/or night vision/infrared recording devices may be used to monitor bat activity at a site. Bat activity in or around the entrance can be monitored by counting bat passes with the bat detector or night vision video tapes can be made, providing actual counts of bats entering the opening. As with trapping, monitoring should be conducted for 5 hours. Report the beginning time and number of bat passes in hour blocks.

\* Due to concerns about the potential for harp trapping and mist netting at caves or portals to exacerbate the spread of white nose syndrome, please contact the U.S. Fish and Wildlife Service, West Virginia Field Office for the most current recommendations and protocols prior to conducting these activities.